

Amendments to the Specification

Please amend paragraph [0010] to read as follows.

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--[0010] Fig. 1 is a schematic view showing the main section of a wavefront measuring device in accordance with a first embodiment of the present invention. In this embodiment, the wavefront aberration of a lens as an object to be measured, is measured using a Twyman-Green-type interferometer. As an object to be measured, a prism, parallel plates, a mirror, or the like may be used. Referring to Fig. 1, a light flux 101 from a laser 1 as light source means which radiates a linearly polarized light flux as a light source passes through a polarization orientation setting member 2 formed of, for example, a 1/2 wavelength plate. The polarization orientation setting member 2 is arranged so that the orientation of the polarization plane of a light flux 101 can be switched between two mutually orthogonal orientations by a rotating mechanism 13 for use in the polarization orientation setting member. After passing through the polarization orientation setting member 2, the light flux 101 is separated by a beam splitter (light re-combining means) 3 into a reference light 102 travelling to a reference mirror 7 and a light 103 to be inspected travelling to a collimator lens 4. The reference light 102 which has ~~past~~ passed through the beam splitter 3 is reflected from the reference mirror 7, and returns to the beam splitter 3. On the other hand, the light 103 to be inspected is condensed at one point by a collimator lens 4, then passes through a lens 5 to be measured, and after being reflected from a concave mirror 6, retraces its optical path. That is, the light 103 to be inspected again passes through the lens 5 to be measured and the collimator lens 4, and returns to the beam splitter. ~~The light 103 to be inspected~~

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reference light 102 which has passed through the beam splitter 3 is reflected from the reference mirror 7 and returns to the beam splitter 3. Here, at the beam splitter 3, the light 103 to be inspected is combined with the reference light 102 reflected here, to form an interference light 104 including the remaining wavefront information of the lens 5 to be measured. The interference light 104 passes through an analyzer 8 which is orientation-set by an analyzer rotating mechanism 14 so as to allow only a predetermined polarized component pass, and is irradiated on the image pickup means of a camera 9 for use in photographing interference patterns. The image signals based on the interference pattern obtained by the image pickup means of the camera 9 are transmitted to a computer 10. The computer 10 has calculating means including wavefront calculation means 11 and birefringence calculating means 12. The wavefront calculation means 11 calculates the transmitted wavefronts of the lens 5 to be measured in each of polarized lights by processing the image signals based on these interference patterns by the same method as that of conventional interferometers. The birefringence calculating means 12 calculates the retardation existing in the lens 5 to be measured and the average wavefront, from the transmitted wavefronts of the two polarized lights which have been calculated by the wavefront calculation means 11. The computer 10 also controls the rotating mechanism 13 for use in the polarization orientation setting member and switches the orientation of the polarization plane of the light 103 to be inspected which is made incident on the lens 5 to be measured, and that of the polarization plane of the reference light 102. Furthermore, the computer 10 controls the analyzer rotating mechanism 14 and sets the orientation of the transmitted polarization plane of the analyzer 8 at the same orientation as that of the polarization of the light 103 to be inspected when it is made incident on the lens 5 to be

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measured. Meanwhile, in the figure, a phase shift mechanism for wavefront measurement is omitted.--
